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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,019	10/20/2003	Geoff W. Taylor	OPE-007	4095

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GORDON & JACOBSON, P.C.
60 LONG RIDGE ROAD
SUITE 407
STAMFORD, CT 06902

EXAMINER

RAO, SHRINIVAS H

ART UNIT PAPER NUMBER

2814

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/689,019

Applicant(s)

TAYLOR, GEOFF W.

Examiner

Steven H. Rao

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
4a) Of the above claim(s) 27-51 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-26 is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) 1-51 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/15/ 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

This is a Quale action since this application is in condition for allowance except for formal (i.e. cancellation of nonelected claims 27-51) matters, prosecution as to merits is closed in accordance with the practice under Ex. Parte Quale, 1935 C.D. 11, 453 O.G. 213.

Priority

Acknowledgement is made of papers filed on October 20, 2003 claiming this to be a continuation-in-part of U.S. Serial No. 09/556,285 to Taylor, filed April 24, 2000 and entitled "A III-V Charge Coupled Device Suitable for Visible Near and Far Infrared Detection", and a continuation-in-part of International Application No. PCT/US02/06802 to Taylor filed March 4, 2002, and a continuation-in-part of International Application No. PCT/US03/13183 to Taylor filed April 28, 2003.

Election/Restrictions

Applicant's election with traverse of Gr. I claims 1-26 in the reply filed on August 01, 2006 is acknowledged. The traversal is on the ground(s) that

(Gr. II claims) "are connected to the provisionally elected Group I claims 1-26. More specifically, both groups of claims are connected in design by reciting "a plurality of pixel elements, each pixel element including complementary first-type and second-type modulation doped quantum well interfaces that are formed in a resonant cavity on a substrate and that are spaced apart from one another, wherein electromagnetic radiation within the predetermined wavelength range is received at said pixel element and injected into said resonant cavity." Because the invention of claims of Group I and

Art Unit: 2814

II are not independent, the Examiner's position regarding restriction/election for the group II claims is incorrect. The Applicant respectfully traverses the outstanding restriction requirement and requests reconsideration of the same.

This is not found persuasive because Applicants' and their Attorneys are engaging in incomplete analysis of restriction/election requirements and the conclusion after incomplete analysis.

Firstly, the law has long been established that dependent inventions (frequently termed related inventions) such as used for illustration above, may be properly divided if they are in fact distinct inventions even tough dependent. " (emphasis supplied).

Therefore Applicants' and their Attorneys' analysis by stopping at the first step by determining whether the inventions are dependent is an incomplete analysis for failing to analyze if the inventions are dependent (assuming arguendo Applicants' are correct in stating that the Gr.I and Gr. II are dependent) the following further analysis, is provided .

It is noted that MPEP 802.01 , etc. adds "that related inventions are different wherein at least one invention is PATENTABLE (novel and non obvious) OVER THE OTHER (though they may each be unpatentable over the prior art) see also MPEP 806.05 (j) which requires related inventions are different if they have separate classification , status in the art or field of search.

Herein claims 1-26 are classified in class 257/222 etc. (see restriction) and claims 27-51 are classified in class 358/489 , etc. and therefore have also clearly achieved separate status in the art and further as stated above have also separate

status in the field of search. Therefore under each of the above categories the inventions of Gr. I and II (even assuming *arguendo* are dependent) are different and may be PATENTABLE (novel and non obvious) OVER THE OTHER.

Therefore contrary to the contention in the response "the Examiner's position regarding restriction/election for the group II claims is incorrect " after complete analysis Attorney Jay P. Srobollini's position regarding restriction/election for the Group I/ II claims is incomplete and incorrect.

The requirement is still deemed proper and is therefore made FINAL.

Information Disclosure Statement

The IDS filed on April 15, 2004 has been considered and the initialed copy of the PTO-1449 has been made of record in the file along with instructions to the contract staff to mail a copy of the same.

Allowable Subject Matter

Claims 1-26 are allowed.

The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitation of the dependent claims, in such manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The applied prior art fails to teach a combination of all the claimed steps/ features as presented in independent claims which include the combination of an imaging device elements as recited in these claims including a plurality of pixel elements where in each pixel element includes complementary first and second -type modulation doped quantum well interface that are formed in a resonant cavity on a substrate and spaced apart from each other and is capable of receiving an


Art Unit: 2814

electro magnetic radiation in a given predetermined wavelength range at the first the pixel element to inject it into the cavity and the charge generated by the injection of radiation in the resonant cavity is collected at the interface of the second type modulation doped quantum well with the pixel element . (See also parent case USP No. 6,870,207).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is (571) 272-1718. The examiner can normally be reached on 8.30-5.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1714. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Steven H. Rao

10/13/2016


LONG PHAM
PRIMARY EXAMINER